Chapter 6.8 WETLANDS ASSESSMENT and PROGRAM INITIATIVES

Wetlands are lands transitioning between terrestrial and deep-water habitats where the water table is usually at or near the land surface or where the land is covered by shallow water (Cowardin and others, 1979). Virginia has many different types of wetlands. Salt marshes include the extensive estuarine wetlands along the Chesapeake Bay that are characterized by vegetation tolerant of brackish to salty water. Other tidal marshes include estuarine wetlands located along freshwater parts of tidal rivers. Interdunal swales are topographic depressions among sand dunes on the Atlantic coast that contain palustrine emergent or scrub-shrub wetlands. Virginia's Atlantic white cedar swamps, red maple swamps, and cypress-tupelo swamps and its nontidal flood-plain forests are palustrine forested wetlands that have seasonally occurring standing water and flood-tolerant trees. Pocosins are palustrine scrub-shrub wetlands that are slightly elevated above the surrounding landscape and have flat topography and poor natural drainage. Virginia's bogs, fens, and wet meadows are palustrine emergent wetlands that are often underlain by organic soils.

Wetlands occupy approximately 4 percent of Virginia's landmass (Dahl, 1990). Based on the United States Fish and Wildlife Service National Wetlands Inventory mapping completed to date, vegetated palustrine wetlands cover approximately 1,075,443 acres of Virginia, and are by far the most abundant type of wetland in Virginia. Estuarine wetlands cover 190,996 acres, lacustrine wetlands 193 acres and riverine wetlands 380 acres (Hershner et al., 2000). In addition, isolated wetlands, i.e. those wetlands occurring in depressions or fed by groundwater, with no surface water connection to other state waters, account for anywhere from 179,849 to 411, 246 acres, depending on the method used to estimate these areas (Hershner et al., 2000). Virginia is in the final stages of developing more accurate geographic information system (GIS) based estimates of the acreage of wetlands by watershed and wetland type. This effort will be completed by 2005, and will be used to update the 2006 305b report.

Virginia includes five physiographic provinces: the Coastal Plain, Piedmont, Blue Ridge, Valley and Ridge, and Appalachian Plateaus. Geologic features, landforms, and soils that directly affect the hydrology of wetlands characterize each province. About 72 percent of the wetland area in Virginia, including all the estuarine wetlands and most of the large nontidal wetlands, are in the Coastal Plain (Tiner and Finn, 1986). Extensive estuarine wetlands have developed in low-lying areas along the shores of the Chesapeake Bay and its tributaries and behind the barrier beaches of the Atlantic coast. Palustrine wetlands are distributed throughout the State and are located primarily in bottomlands and in flood plains along stream channels, especially in headwater areas. About 22 percent of the wetlands in Virginia are in the Piedmont, and most of the remaining wetland area is in the Appalachian Plateaus (Tiner and Finn, 1986; Harlow and LeCain, 1991).

Virginia has experienced great losses of wetlands during its development. In the 1780's, wetlands covered about 1,849,000 acres (more than 7 percent) of Virginia (Dahl, 1990). By the mid-1980's, when permits began to be required for most impacts to wetlands, about 1,075,000 wetland acres remained in Virginia -- a loss of about 42 percent in 200 years (Dahl, 1990). Agriculture, industrial and urban development, and recreation have led to the draining, dredging and ditching, filling, diking, and damming of wetlands in Virginia. According to a Chesapeake Bay Foundation fact sheet (2001), Virginia lost more than 770,000 acres of wetlands, for an annual loss of 3,870 acres, during the 200-year period from the 1780s to the 1980s. From 1982 to 1989, Virginia lost more than 17,800 acres of its Chesapeake Bay watershed wetlands at an annual loss of 2,500 acres. While the most recent data have not been finalized, most experts agree that significant annual wetland losses continued during the 1990s. Further, during 1998 and 1999, more than 2,500 additional acres of non-tidal wetlands in Virginia were ditched for development, nearly 6,700 acres are planned to be ditched, and additional acres of isolated wetlands were destroyed. Eighty percent of estimated losses of freshwater vegetated wetlands (mostly palustrine-forested systems) occurred in the Coastal Plain. Wetland trends for the Norfolk/Hampton region of Virginia indicate a loss of about 4,800 acres of vegetated wetlands between 1982 and 1989/90 (Tiner and Foulis, 1994). This loss of wetland areas has slowed since 2000 due to stricter laws, greater enforcement, and new mitigation strategies. Table 6.8-1 below depicts permitted wetland impacts with associated compensation by wetland type for 2002:

Table 6.8-1 Permitted Wetland Impacts and Associated Compensation

Wetland Type	Permitted Acreage	Compensated Acreage
Tidal Open Water	10.96	0.64
Tidal Emergent	0.01	0.14
Tidal Nonvegetated	12.88	3.53
Subtotal	23.85	4.31
Isolated, Non-tidal Emergent	0.835	0.997
Isolated, Non-tidal Scrub-Shrub	0.13	0.2
Isolated, Non-tidal Forested	1.163	1.05
Subtotal	2.128	2.247
Non-tidal Open Water	6.09	3.87
Non-tidal Emergent	58.081	57.56
Non-tidal Scrub-shrub	27.338	92.859
Non-tidal Forested	117.158	239.318
Subtotal	208.667	393.607
Total	234.645	400.164

Wetlands Definitions and Standards

Wetlands may be defined in different ways with regard to jurisdictional issues, but all wetlands have in common a seasonal pattern of hydrology or continuous inundation, characteristic hydric soils, and vegetation adapted to growing under saturated condition. The Wetlands Act of 1972 (Title 62.1 of the Code of Virginia) defines tidal wetlands for the purposes of protecting the resource and regulating development. Under this definition, wetlands are found in the 29 counties and 17 cities that comprise Tidewater, Virginia. Specifically, vegetated wetlands are defined as "all land lying between and contiguous to mean low water and an elevation above mean low water equal to the factor 1.5 times the mean tide range at the site of the proposed project in the county, city or town in question," and on which are growing one or more of 37 specified species of wetlands vegetation. Non-vegetated wetlands are defined as all other lands between mean low water and mean high water. The Act does not include a definition for non-tidal wetlands. Further, it does not include all lands that are considered to be wetlands under the federal definition, seasonally tidal areas included. Although the Wetlands Act was initially limited to vegetated tidal wetlands, subsequent amendments included two discrete areas subject to wind tides along the North Landing River and Back Bay in southeastern Virginia.

The definition of wetlands contained in the DEQ's Wetlands Policy is as follows: "The wetlands of the Commonwealth, including marshes, swamps, bogs and other low-lying areas, which during some period of the year will be covered in part by natural non-flood waters, are unique, valuable and an irreplaceable natural resource." This definition was modified and included in the Virginia Water Protection Permit (VWPP) regulation (9 VAC 25-210-10) in 2001 as follows, and parallels the federal definition of wetlands contained in Section 404 of the Clean Water Act: "Wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support and, under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas." Wetlands are part of State Waters per Section 62.1-44.3 of the Code of Virginia. State Waters means "all water, on the surface and under the ground, wholly or partially within or bordering the Commonwealth or within its jurisdiction, including wetlands." Water quality standards for wetlands are the same as those water quality standards for other surface waters, per 9 VAC 25-260-10 *et seq.* In particular, Virginia has "free from" narrative wetland criteria, numeric criteria based on EPA 304(a) criteria, fishable/swimmable designated use, and an antidegradation policy that is the same for all surface waters.

Wetland Laws and Regulations

Development activities in wetlands in Virginia are regulated by the U.S. Army Corps of Engineers (the Corps) through Section 404 of the Clean Water Act, the Department of Environmental Quality, through the

VWPP program and Section 401 of the Clean Water Act; and the Virginia Marine Resources Commission (VMRC) and local Wetland Boards through the Virginia Tidal Wetlands Act of 1972.

- Tidal Wetlands Act

The Virginia Tidal Wetlands Act of 1972 is codified in Title 28.2, Chapter 13, Code of Virginia, and is administered by the VMRC. The Act authorizes local governments to establish local wetland boards that exercise jurisdiction and issue permits for wetlands development, subject to adoption of a model wetlands zoning ordinance. While most Tidewater localities have wetland boards, in those areas without boards permits for wetland development must be obtained from VMRC. The Commission reviews all decisions made by the local boards and has the authority to modify, remand, or reverse those decisions. The Act also requires that the Virginia Institute of Marine Science (VIMS) maintain an inventory of vegetated wetlands and provide advice and assistance to the VMRC on projects and on the development of wetland guidelines. The guidelines describe the values of each wetland community type and provide ranking according to the values.

- Chesapeake Bay Preservation Act

The Chesapeake Bay Preservation Act created the Chesapeake Bay Local Assistance Department (CBLAD), whose function is to protect water quality and the integrity of the Chesapeake Bay through the creation of Chesapeake Bay Preservation Areas (CBPA) via local government ordinances. These preservation areas serve to restrict development in wetlands associated with free flowing permanent streams through the establishment of buffer zones. Each local government within Tidewater, Virginia has developed regulations and ordinances regarding development within CBPAs, and is responsible for program implementation under the oversight of CBLAD. The implementation of the regulations of this Act relies on local governments.

- Virginia Water Protection Permit Program

The Virginia Water Protection Permit (VWPP) constitutes the state Water Quality Certification required under Section 401 of the Clean Water Act, as well as serving as an independent state wetland program since 2000. Activities for which a water quality certificate are required include impacts to wetlands under Sections 402 and 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act of 1899, Federal Energy Regulatory Commission licensing, and other appropriate federal permits or licenses. The State Water Control Board may issue blanket Section 401 Certifications for classes of Corps of Engineers Nationwide and Regional Permits that have minimal environmental impact and meet the requirements of state law.

Regulations for the VWPP were first promulgated on May 20, 1992. These regulations replaced the existing 401 regulatory procedures contained in the State Water Control Board's Procedural Rule No. 3. The VWPP Regulations (9 VAC 25-210) define "surface waters", which are part of the definition of state waters, to include wetlands. This definition has closely followed the federal definition of "waters of the United States".

In 1996 and again in 1999, the Virginia General Assembly enacted legislation to encourage the use of Wetland Mitigation Banks. These “banks” were to be developed in accordance with federal guidance for the creation of wetland mitigation banks. Furthermore, the Virginia General Assembly enacted service area requirements for these banks that required any impacts compensated through the purchase of credits from the bank to be in the same or adjacent hydrologic unit within the same river watershed as the bank. The legislation also provided special provisions for linear transportation projects and projects for localities whose jurisdiction crosses multiple river watersheds.

The Great Dismal Swamp Wetland Mitigation Bank was the first bank in Virginia to be created subsequent to the issuance of Federal Guidance for the Establishment, Use, and Operation of Mitigation Banks (60 CFR 58605 et seq.), and actually drains to Albemarle Sound in North Carolina. Since then, banks have been established in the Middle James River, the Lower James River, the Chickahominy River, the York River, the Potomac River, the Dismal Swamp drainage, the Mattaponi River, and the Rappahannock River watersheds. As of mid-2003, there were 20 approved wetland mitigation banks in Virginia, the majority of which are located in the Northern Virginia, metropolitan Richmond, and Tidewater areas — the so-called “urban crescent.” Additionally, there are approximately 20 proposed wetland mitigation banks in various stages of the review process.

In 2000, the Virginia General Assembly amended Section 62.1-44 of the Code of Virginia, relating to non-tidal wetlands, to establish and implement policies and programs to achieve no net loss of existing wetland acreage and functions. Additionally, to develop voluntary and incentive-based programs that achieve a net resource gain in acreage and functions of wetlands. The General Assembly actions removed the dependence of the VWPP program on the issuance of a Corps permit, thus enabling DEQ to regulate activities such as excavation in wetlands and fill in isolated wetlands, which are not currently under federal jurisdiction pending the outcome of a series of court cases. The VWPP regulation (9 VAC 25-210-10) was significantly revised to reflect these statutory changes, some of which became effective on July 2000, with complete implementation on October 1, 2001. A federal/state court case decided by the U.S. Fourth Circuit Court of Appeals in 2003 (Treacy v. Newdunn Associates, 4th Cir. Ct. 02-1480) upheld the Commonwealth's authority to regulate wetlands as "State Waters" independent of any federal wetland permitting action.

In addition, the 2000 General Assembly directed DEQ to develop General Permits for classes of activities such as linear transportation projects, utility projects and development projects, to expedite the permitting process in Virginia while maintaining the same high level of environmental protection. The development of these General Permits took place with extensive input from the public through the establishment of a 30-person Technical Advisory Committee, and was implemented in October 1, 2001. Each General Permit has specific thresholds for use (1 acre for utility projects and 2 acres for transportation and development projects, plus a non-activity specific permit for impacts less than 1/2 acre) and compensatory mitigation requirements, with a 45 day review and issuance time frame upon receipt of a complete registration statement. Since their implementation, 81 permit applications resulting in approximately 41 acres of wetland impacts have been reviewed via general permits, with approximately 69 acres of compensation for these 41 acres of impacts (an overall 1.68:1 compensation ratio).

Since first becoming a signatory state to the Chesapeake Bay Wetlands Policy in 1989, the Commonwealth of Virginia has remained committed to attaining a net gain in wetland acreage and functions within the Chesapeake Bay drainage. The General Assembly's actions in 2000 further confirm the Commonwealth's commitment to these goals, through establishing a statutory commitment to a net resource gain of non-tidal wetlands through voluntary programs. DEQ has received a grant from EPA to educate the public on opportunities for wetland restoration projects, and to coordinate reporting of wetland restoration projects being conducted by state and federal agencies and nonprofit groups in each Virginia watershed.

- Coordination of Activities

In addition to the regulatory agencies, several state resource agencies are involved in reviewing activities for which VWP permits are required. Among these agencies are the Department of Game and Inland Fisheries (DGIF), the Department of Conservation and Recreation (DCR), CBLAD, Department of Health (VDH), and the Department of Agriculture and Consumer Services (DACS). Input is sought from these agencies through the permit application clearinghouse administered by the VMRC. Permitting activities are also coordinated with these agencies during cooperative site visits and periodic Joint Permit Application meetings sponsored by the Corps.

The actions taken in 2000 by the Virginia General Assembly included changes within DEQ that served to streamline the permitting process through more predictable review of permit applications within specified time frames, and the ability to modify permits for minor changes without resubmitting an application. Additionally, the General Assembly requested that DEQ seek a State Programmatic General Permit (SPGP) from the Corps by July 2002, leading to a tiered system for the review and issuance of permits for wetland impacts in the Commonwealth, allowing the best use of resources between the Corps and DEQ. The Corps issued the final SPGP in August 2002, and implementation began on November 1, 2002. In the first year, a total of 558 projects statewide have been coordinated under the SPGP. The SPGP program is currently being reviewed for its effectiveness and possibilities for increased streamlining of the two programs.

- Wetland Initiatives

A key aspect of the Commonwealth of Virginia's nontidal wetlands program is ensuring that there is no net loss of wetland acreage and function through permitted impacts, and a net gain in wetland resource through voluntary programs. To accomplish these goals, the VWPP program received a grant from EPA in

August 2003 to determine the status of wetland resources in Virginia, in terms of location, extent, and overall quality of wetlands in each watershed. Using this information, the VWPP program can then track changes in wetland acreage and quality within the Commonwealth, target watersheds, and help determine the effectiveness of compensatory mitigation to replace lost wetland acreage and function. As a first step, Virginia will develop a long-term strategy for wetland monitoring and assessment, including the goals and objectives of a monitoring and assessment program and a time frame for implementation. This strategy will provide the ultimate framework for an ongoing assessment of the status of the Commonwealth's wetland resources and the success of both our wetland regulatory and voluntary programs. The end result will be the incorporation of on-going wetland monitoring and assessment into the Commonwealth's water monitoring programs.

The VWPP program, in coordination with the overall DEQ water monitoring program, will work to develop a ten-year plan for wetland monitoring and assessment in Virginia. The development of this strategy will follow the EPA March 2003 "Elements of a Wetland Monitoring and Assessment Program Checklist" and will include a discussion of the following elements:

I. Monitoring Program Strategy
II. Monitoring Objectives
III. Monitoring Design
IV. Core and Supplemental Water Quality Indicators
V. Quality Assurance
VI. Data Management
VII. Data Analysis/Assessment
VIII. Reporting
IX. Programmatic Evaluation
X. General Support and Infrastructure Planning

The first step in developing such a plan will be to clearly articulate the goals and objectives of the assessment and monitoring of wetlands in Virginia. Virginia's focus will be to use data generated under this grant to conduct reporting on status and trends of wetlands as part of Virginia's 305(b) report and evaluating the effectiveness of regulatory and voluntary programs in meeting Virginia's mandate of no net loss of wetland resources through regulatory programs, and a net resource gain through voluntary programs. A draft Wetland Monitoring and Assessment Plan is due to EPA by April 15, 2004, with the final Plan being completed by September 1, 2004.

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